1928

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VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers' Association,
W. R. Ballard, Secretary-Treasurer.

Vol. V. No. 1. College Park, Maryland. January 1928.

The Annual Meeting

The attendance at the annual meetings held in Baltimore January 4th and 5th was fairly good and interest in the programs was marked.

The first day's session was devoted to a discussion of the following subjects: Control of Truck Crop Insects. Production and marketing of Canteloupes, Cucumber and Cantelcup diseases. Seed treatment and Culture of Turnip Broccoli.

The second session was given over largely to canning crops. Mr. L. M. Goodwin reviewed the work being carried on by the Extension Service. Ten Ton Tomato Clubs, Bean Diseases, Sweet Corn Seed Problems, and Pea Culture, were other topics discussed by specialists. These papers will be published in the annual report of the Association.

Mr. G. R. Cobb, of Salisbury was elected President for 1928 and the other officers are as follows:

Vice-President -- B. I. Sparks, Baltimore.
Secretary-Treasurer -- W. R. Ballard, College Park.
Members of Executive Board --
A. M. Todd, Sparrows Point.
R. T. Merritt, Colgate.
R. N. Phelps, Brooklyn.
Director for M.F.B.F -- B. I. Sparks, Baltimore.
Delegate to Annual Meetings --
W. R. Ballard, College Park.
Director to Agricultural Corporation --
James W. Davis, Rocks, Md.

The treasurer's report showed a balance on hand at the beginning of the year of $18.80.

Resolutions were adopted urging upon the legislature and University authorities to give early and favorable consideration to the need for the proposed new Horticultural Building at College Park.

Favorable consideration was also given to the idea of a summer tour to sections of vegetable growing interest provided the necessary interest was manifested.

The Market Growers' Journal has now been in existence for more than twenty years. The management has offered reduced rates to members of our Association provided the entire membership adopts the suggestion. The Club price would be fifty cents per year, or $1.00 a head for three years. Since this can be financed only by each member paying the amount necessary, the Secretary will necessarily be guided by the wishes of the membership.

Controlling Cabbage Diseases: Demonstrations in Baltimore County during the last three or four years with "Yellows" resistant strains of midseason cabbage varieties have shown the value of these strains in controlling the "Yellows" disease. Since many growers are unable to differentiate between this disease and other common troubles, arrangements were made last year for treating all the seed brought by growers into the County Agent's office with Semesan for the control of "Black leg." The results were so good that this plan will be continued.

Since the "Yellows" disease causes approximately forty percent damage to the early Jersey Wakefield crop, the advent of resistant strains of this type have been eagerly awaited. Progress in this direction has reached the point where the Experiment Station will have a small amount of seed available this spring for a preliminary test on soils known to be infected with this disease. If the strains prove of value, it will probably be only a short time before seed in commercial quantities will be available.

Early Planting of Peas: Experimental results with this crop emphasizes the great value in planting just as early as conditions will warrant. Dr. Boswell's work has shown that late plantings mature almost as soon as those planted early, but the yield is materially reduced.

A Vegetable School: Programs are out for a Canners' and Field Men's School to be held at College Park, February 9th and 10th, 1928, under the auspices of the College of Agriculture and Agricultural Extension Division of the University of Maryland in cooperation with the Tri-State Packers' Association. Production problems relating to all the principal canning crops grown in this territory will be included in the discussion.

Late Potatoes in Howard: During the season of 1927, late potato variety tests were carried on in Howard County for the purpose of determining the varieties best adapted to this section. While sweeping conclusions cannot be made from one year's test, it will still be interesting to note the results secured.

The following table indicates the yields obtained per acre and the particular varieties included in the tests.

Potato Tests -- Howard County.

(Yields per Acre)

NAME.	Scotch Rural.	Green Mountain.	Carman No. 3.	Rural Russet.
Cecil Simpson,	146.6	217.1	147.4	118.2
Stephen Anderson.	224.4	264.4	268.9	187.9
W. A. Smith	176.0	279.0	138.0	175.0

P. B. Cissel.	Scotch Rural.		Jersey Red Skin	Michigan Russet.	Peach Blow
	Large	Small.			
	229.1	194.2	277.9	168.2	193.7

The yields in the russet group are considerably smaller than was to be expected but Dr. R. A. Jehle who inspected the plots reports that this was due largely to attacks of the late blight, a disease to which this variety is peculiarly susceptible. Since, however, this disease is quite uncommon in ordinary seasons in this section, the lowered yields should not count too heavily against the russet type.

The Jersey Red has been substituted in many sections for the McCormick which has almost disappeared because of attacks of the mosaic. There are certain objections to the Jersey Red potato, not the least of which is on account of its color. The irregular shape and knobs caused by second growth also count heavily against it. The probabilities are, according to Dr. Jehle that its susceptibility to the rhizoctonia may cause its disappearance along with the McCormick. It is true that this disease is susceptible to control by spraying, but this operation is not generally practiced.

One of the difficulties with varieties of late potatoes such as the Russet Rural, Green Mountain, Carman, etc. is that of securing a good stand. The conditions are such at planting time

in midsummer that often the cut potatoes rot badly. To overcome this situation Mr. White suggests that medium size, whole potatoes be planted, or if they are to be cut that seed stock be kept on cold storage until within ten days of planting time. The medium size, whole potatoes selected at digging time, with due regard to the presence of disease could be kept over in common storage until planting time.

VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers Association.
W. R. Ballard, Secretary-Treasurer.

Vol. V. No. 2. College Park, Maryland February 1928.

The News Letter: The Association has been for some time sending the News Letter to most of those who have been at one time or another connected with the organization. The issuing of this monthly sheet of information involves considerable expense and it seems that members should be willing to pay their share if they desire to receive the letters. For this reason it has been decided to send the News Letter in the future only to the paid up members. Send in your check at once if you wish to be retained on the mailing list.

The Culture of Cauliflower: The following notes by L. M. Goodwin of Caroline County give a very good picture of the situation with this crop on the Eastern Shore of Maryland.

> Cauliflower has been produced in Caroline County, Maryland for the past few years in commercial quantities. However the growers have found the crop to be a very uncertain one and many have discontinued growing cauliflower the past year. For the crop to develop it requires cool, moist weather. One year, at least, conditions were ideal and the crop made the proper growth and the growers made a substantial profit, but several years with less favorable weather the crop was a failure. California and Long Island are the main producing sections.
>
> For culture in Maryland the seed is sown during the latter part of May and the plants are set in the field around the first of July. The time of sowing seed and setting the plants in the field is about the same for cauliflower as for late cabbage. The Snowball seems to be the most popular variety. Francis C. Stokes & Company, Philadelphia, Pennsylvania, have a selection known as Early Snowball which they recommend highly. The plants are set two feet apart in the row and two and one-half feet between rows.
>
> A heavy application of manure is required as much as fifteen to twenty tons per acre, this being supplemented by from 800 to 1000 pounds of a good truck fertilizer such as a 7-6-5.

The heads will not start to form to any great extent until the cool weather of October and I have known the bulk of the crop to be harvested late in November, and in December, so you can see that early freezing weather would be one of the dangers to be encountered. Our late summer and early fall weather is usually too warm for the best development of the crop.

When the heads first begin to form the leaves are tied up to protect the head from rain and sun so that a pure white color will be secured.

When the heads have formed they are harvested and shipped to market in barrels or crates. Care should be exercised in packing to avoid injury.

Cauliflower is attacked by the same insects which attack cabbage and dusting with one part calcium arsenate and seven parts hydrated lime will probably be necessary.

Asparagus Rust Control: While there is no such thing as immunity to this disease, certain varieties resist its attacks to a high degree. Conover's Colossal is most severely affected while such varieties as Palmetto and Giant Argentenil show marked resistance.

The recent appearance of the Washington strains and the fact that they show rather high resistance, and excellent size of stalk and quality, has made them quite popular for planting.

Recent observations in some fields of these strains has shown a high percentage of attack by the rust so that too much dependence should not be placed upon their high degree of resistance to the neglect of control measures.

Since the fungus obtains a foothold on uncut plants, all unused beds as well as stray specimens in fence corners and waste fields should be destroyed.

The fungus has four common rust stages, all of which are found on the asparagus. The first two spore stages appear on the first stalks that appear in spring on beds where the rust was present the year before. The spores are most abundant in April and May, but have been found as late as July. The spores of the second stage are blown by the wind and germinate in the presence of moisture and enter the breathing pores of the asparagus plant. It can be seen that clean cutting at this period, is a very important measure in preventing the development of the later stages of the rust and consequently in the control of the disease.

Two or three applications of dust or spray, beginning about three weeks after the cutting season, is advantageous, where the infection is severe. In the East, Bordeaux with a resin-fish sticker has been used, while in California sulphur dust is used. The dust must be applied while the plants are wet with dew, or first sprayed with Bordeaux, or a solution of whale oil soap, and the dust applied while plants are still wet.

Sweet Corn Breeding: At the recent "Canner's School" held at College Park, Professor W.B. Kemp exhibited specimen ears of sweet corn illustrating interesting phases of the work being carried on at the Experiment Station. One set of samples represented a cross between a sweet corn and a field corn, resulting in sweet corn ears intermediate in size between the two types. The yield of this hybrid strain is above that of the ordinary commercial strains. Of particular interest, however, was the series in which two strains of sweet corn has been in-bred for a sufficient period to attain purity and uniformity of types. In this process they progressively lost height and vigor until a stable condition had been reached. These two inbred types were then crossed. This resulted in a very vigorous, productive type remarkable for its uniform character. However this hybrid is unstable and in the second generation would break up into a wide variety of types. This makes it necessary to go back each year to seed produced by crossing the inbred strains. It would not appear practical for the average grower to carry on the breeding practices incident to the un-breeding operations, but individuals who could isolate the two in-bred strains could plant a row of each and remove the tassels from one to insure fertilization by the other, thus providing himself with seed unquestionably superior to ordinary commercial stock.

The War is On: A merry battle is being waged between the canning industry and the producers of fresh vegetables for the market. The tremendous production in the South of fresh vegetables of all kinds for the winter markets of the North with the prospect of greatly enlarged activities in the near future is proving very disquieting to the leaders in the canning trade. To make it worse, Old Mexico is getting into the game and is importing very substantial quantities of fresh vegetables into the United States. The time is fast approaching when our markets will be well supplied with practically all the fresh fruits and vegetables the year around. Many housewives prefer the fresh product despite the additional work necessary to prepare it for the table. The story of the man who "starved to death because his wife lost her can opener" may still be taken with a grain of salt.

VEGETABLE GROWERS' NEWSLETTER

Issued by

The Maryland Vegetable Growers' Association,
W. R. Ballard, Secretary-Treasurer.

Vol. 5. No. 3. College Park, Maryland March 1928

Carrots

This crop thrives best in a deep loose loam, a sandy loam being preferred for the early crop. To develop roots of high quality carrots should make a continuous and rapid growth. Soils should be fertile and should be well supplied with nitrogen, phosphoric acid and potash. Well rotted manure is especially desirable for sandy soils. The danger of introducing weeds through the use of manure is great so that is is very important to apply manure to a previous crop or to have it thoroughly rotted. From 800-1200 pounds of a 4-8-4 fertilizer should give good results if supplemented with available manure or cover crops plowed down. The carrot is hardy and may be planted as soon as hard freezes are over. Succession plantings are often made. The amount of seed required per acre is from two to three pounds. Rows are spaced 12 to 18 inches apart and seed covered from one-half to three-fourth inches deep. Since the seed germinates slowly, a small quantity of radish seed is sown in the row to mark it for early cultivation. Carrots usually require thinning. Keeping down weeds is very important as the carrot grows very slowly at first, and is easily smothered out. Cultivation is need mainly to keep down weeds. Chantenay and Danvers Half-Long are important varieties. In most sections of Maryland a fall crop is started about July first.

Reprinted from FARMER'S BULLETIN - 1157

FORMULAS

After thorough tests, both in the laboratory and in the field, the department has found that the following formulas, which have been developed in the course of its investigations, are very satisfactory for increasing the serviceability of cotton duck. It is believed that they will meet the requirements of the farmer and ranchman and others using canvas for outdoor purposes. These formulas are designed solely for use in waterproofing and mildewproofing treatments. While the department believes that the formulas here given do not infringe on any existing patents or pending applications for patents, it can assume no responsibility in the matter.

Formula 1.

	Pounds
Amorphous mineral wax or crude petrolatum	7½
Yellow beeswax	1
Refined Bermudez Lake asphalt	1½

Solvent: 3 gallons gasoline and 2 gallons kerosene.

Formula 2.

	Pounds
Petroleum asphalt (medium hard) or Bermudez asphalt	6
Neutral or extracted wool grease	2½
Lead oleate, technical	1½

Solvent: 3 gallons gasoline and 2 gallons kerosene.

Formula 3.

	Pounds
Amorphous mineral wax or crude petrolatum	8½
Yellow beeswax	1½

Solvent: 3 gallons gasoline and 2 gallons kerosene.

Formula 4.

	Pounds
Amorphous mineral wax or crude petrolatum	6½
Yellow beeswax	1½
Lead oleate, technical	2

Solvent: 3 gallons gasoline and 2 gallons kerosene.

Applications of mixtures made by formulas 1 and 2 give the canvas a dark brownish color, while those made according to formulas 3 and 4 give it a light buff to khaki color. The first two are preferable for all purposes where a dark color is not objectionable.

The amorphous wax referred to in the formulas is a soft grease-like mineral "wax" obtained as a by-product in refining chilled cylinder-oil stocks by means of centrifugal machines, and is very similar to dark petrolatum, except that it is more viscour and has a higher melting point. The substitution for it of dark or amber petrolatum will not materially change the results. Lead oleate is an insoluble metallic soap, which is added to insure waterproofness as well as mildewproofness. The kerosene is added not only to decrease the cost, but to reduce the volatility of the solvent, thus making the mixture spread better. All of these materials may be

purchased, but not always from local dealers. Amorphous mineral wax or crude petrolatum (sometimes called petroleum grease) may be secured from dealers in oils and greases. The asphalts are obtainable from dealers in roofing materials. At present it probably is impossible to buy the wool grease from local dealers. This material, as well as amorphous mineral wax, however, may be ordered from wholesale dealers in oils and greases or tanners' supplies, through hardware stores, or through dealers in agricultural supplies and implements. Lead oleate, which also is not sold by small dealers, must be ordered from manufacturers of chemicals through local druggists or paing dealers, who will also supply beeswax.

MIXING THE MATERIALS

Weigh out the solid materials in proper proportions, place them in a kettle or can, and melt slowly and carefully at as low a temperature as possible, with constant stirring. When the mixture has completely melted, remove to a safe distance from the fire, and pour it slowly, with constant stirring, into the proper quantity of solvent (a mixture of 3 parts by volume of gasoline and 2 parts by volume of kerosene), using 5 gallons of this solvent to 10 pounds of the mixture. This should be done with free ventilation, preferably out of doors.

In the preparation of mixtures by formulas 1 and 2 there is sometimes a separation of asphalt that does not mix uniformly with the solution upon stirring or shaking. In such cases allow the mixture to stand a day or so, with occasional stirring, before applying it to the canvas. In other cases where the material settles to the bottom of the container or thickens it will be necessary to warm the mixture just before applying it to the canvas. This must be done in the open air by placing the open container in a tub or can of hot water. Be sure that the container is open, and never place it over or near a flame.

APPLICATION

The mixture must be thoroughly stirred before and during application, in order to keep the undissolved material in suspension. These preparations may be applied to the canvas by means of a paint brush or by spraying. Wagon covers, shock covers, etc., may be treated best by stretching the canvas against the side of a barn or attaching it to a frame and applying the material with a brush. Once the canvas is fixed in position, no more time is required to treat it than is necessary to apply a first coat of paint to a rough board siding having the same area. Much time may be saved in treating large paulins and standing tents by applying the material with a spray pump, with which a pressure of at least 50 pounds is developed . Some loss of material, however, results from this method.

The experience of the department has been that one coat applied to one side of the canvas usually is sufficient. When one coat is applied to one side, using the strength of solution as given in the formulas, there will be an increase in weight of from $3\frac{1}{2}$ to $4\frac{1}{2}$ ounces per square yard. Ten pounds of the material and 5 gallons of the solvent will treat about 40 square yards of canvas.

COST OF WATERPROOFING AND MILDEWPROOFING COTTON DUCK

Based on the lowest prices current in Washington, D.C., in August, 1920, the cost of the materials called for in these formulas here given has been estimated to be as follows:

	Materials furnished	
	Retail	Wholesale
Formula 1	$3.30	$2.80
Formula 2	2.70	2.45
Formula 3	3.80	3.10
Formula 4	4.30	3.50

This cost is calculated for about 6½ gallons of the mixture, which would cover about 40 square yards of canvas; that is, the cost of the treatments would vary from about 7 to about 11 cents a square yard. The cost of preparing the mixture by formula 2 is reduced by about 25 cents when extracted wool grease is substituted for the neutral wool grease first specified.

The prices on which these estimates were based are as follows:

	Retail	Wholesale
Amorphous mineral wax or crude petrolatum (per pound)	$0.15	$0.10
Yellow beeswax (per pound)	.75	.60
Bermudez Lake asphalt (per pound)	.04	.04
Petroleum asphalt (per pound)	.02	.02
Neutral wool grease (per pound)	.25	.20
Extracted wool grease (per pound)	.15	.10
Lead oleate, technical (per pound)	.40	.30
Gasoline (per gallon)	.31	.31
Kerosene (per gallon)	.22	.22

Vegetable Grower's News Letter.

Issued by the

Maryland Vegetable Growers Association
W. R. Ballard, Secretary-Treasurer

Vol. 5. No. 4. College Park, Maryland. April 1928

Notes From the Canner's School.

In a very successful two day school held at the University of Maryland early in February for canners and field men many important questions relating to the production of canning crops were discussed. In a twenty-page mimeographed report just issued is given the gist of these discussions. In the belief that some of this information might be of interest and value to the members of the Vegetable Growers Association, copies are being included with this issue of the News Letter.

Shooting to Seed of Cabbage.

In the past few weeks, producers of over-wintered early cabbage will have noticed a number of plants which have shot up a flower stalk instead of remaining as a rosette of leaves which will develope into a head. The number of seeders which develops varies widely from year to year and from one farm to another. Various reasons have been given to account for the trouble, and various remedies have been suggested.

Studies on this problem for the past five years at the Maryland Experiment Station have yielded some results of considerable value. The outstanding points are as follows:

1. The larger the plants are when the growth stops in the plant bed in the fall, the more of them will go to seed in the spring.

2. The size of the plants is easily influenced by (a) The fertility of the plant bed and (b) The length of time they can grow before cold weather stops them.

3. A difference of only a week in the date of sowing the seed makes a great difference in the number of seeders that will result, particularly if the soil of the plant bed is rich enough to force a rapid growth.

4. Of two lots of plants the same size, but from seed sown on different dates, those from the earlier date (the older plants) go to seed the more.

5. Planting late to obtain small plants must not be too late, else small tender plants will result, which cannot stand the winter.

6. Small, hardy, slowly grown plants with stems about one-fifth of an inch in diameter come through very well. The stems should be no more than a quarter of an inch in diameter just below the crown if a high percentage of headers is to be expected.

It is recognized that the problem is not settled but these few points should be helpful.

Some writers have stated that injuring the crown bud of prospective seeders would prevent flower stalk formation and cause a head to develop from a lateral bud. Observations here show that that doesn't work under our conditions. Injuring the terminal bud may cause several tiny, worthless heads to form from lateral buds, or none at all.

A complete report of the past five years' work on this problem is scheduled to appear in the near future.

Information About Asparagus

California has recently issued a very complete bulletin, entitled "The Asparagus Industry in California". The authors, Jones and Robbins, give interesting data on the production of this important crop. This is bulletin No. 446, of the Experiment Station, Berkeley, California.

Broccoli Conference.

At the Broccoli Conference held at Salisbury under the auspices of the Del Mar Va Association early in the year, a thorough discussion of various

phases of the industry took place. The broccoli as grown on the Eastern Shore appears to be a form of the Seven Top turnip.

Mr. Thomas D. Thomas, Laurel, Del. secured seed from a New Jersey source about five years ago. The first crop yielded $700 per acre. Plantings in the Del Mar Va area are estimated to have increased to over a thousand acres. The seed is sown the last of August. A top dressing of 200 lbs. nitrate of soda is applied in early spring. The crop must be fertilized heavily to produce strong succulent stems. Cutting begins about March 25th, the best time to cut being just before the blossoms start to open. The stalks are tied in bunches weighing 1½ lbs. each and 24 are packed to the crate. These sprouts are much used by Italians. Shipments must be iced to reach destination in good shape. There is an increasing volume going into the markets by truck. If not handled carefully the stalks wilt badly or, if overheated, make considerable growth in the crate.

Growers in some cases select a few of their best plants in early spring and transplant them to a seed plot in which to mature seed without too much mixture from other plants in the field.

Mr. R. G. Hill of the U. S. Bureau of Agricultural Economics concluded that there was more broccoli being used today in the United States than spinach.

REPORT OF THE CANNER'S AND FIELD MEN'S SCHOOL HELD UNDER THE AUSPICES OF THE COLLEGE OF AGRICULTURE AND AGRICULTURAL EXTENSION DIVISION OF THE UNIVERSITY OF MARYLAND IN COOPERATION WITH THE TRI-STATE PACKER'S ASSOCIATION.

College Park, Maryland

February 9 and 10, 1928.

THURSDAY MORNING - TOMATOES

9:00 "What Are We Here For?"
by
Dr. E. C. Auchter, University of Maryland.

Stated as briefly and concisely as possible, this meeting was called so that the canners would become better acquainted with the staff and work at the University of Maryland; also to give them a chance to get in touch with the latest developments from the Experiment Station that will help canners and growers solve their production problems, and enable them to obtain higher yields of better quality and larger profits. Lastly this meeting was called so that the staff of the University could get a better idea of the canner's problems that should be solved by them.

9:15 "Tomato Plant Growing."
by
Hall Wrightson.

Round Table Discussion.

(Q) Does it pay to sow tomato seed early and to operate cold frames to permit plants to make slow growth; or to seed later, operating at higher temperatures, allowing plants to make rapid growth, and harden plants a week or ten days before field setting?

(A) Plants which have been grown normally are much better than those which have been forced rapidly. C. H. Nissley reported that in New Jersey, southern grown plants yielded more than hotbeds of field seedlings, and only slightly less than spotted plants. The difference in yield of spotted and southern plants for canning tomatoes was not sufficient to pay for the increased cost of spotted plants. A survey of New Jersey indicates that the plants set in the field early yielded the most.

(Q) Should tomato plants be grown by the canner, by the individual or by private plant growers in the community?

(A) Conclusions were: that the canner must grow most of the plants himself. In this way he can be sure that his growers will receive properly grown plants of a good variety. The commercial plant grower, sows the seed too thickly and uses too much nitiate of Soda producing forced, soft plants. All were agreed that the canner should control seed used so as to get a standard variety of high vitality and high producing power.

(Q) What is the best procedure for hardening plants?

(A) In cold frames remove the glass as soon as plants show signs of becoming soft, withhold moisture and use no Nitrogen fertilizer on the seed bed. On a small acreage roots on one side of the plants can be cut about 1 to 1½ inches from the plant. In the open the only way is to cut the roots with a disk-cutter or by some other means, on one side of the rown and a few days later cut those on the other side.

(Q) What are the advantages of cloth-covered cold frames?

(A)
1. Seed can be sown 15 days earlier than in the open.
2. Protects plants from frost and insects.
3. Cloth is easier to handle than glass.
4. Heavy sheeting gives better protection than glass. Use a good grade of muslin but do not use cheese cloth.

(Q) May plants be set directly in cold frames without flats?

(A) Yes.

(Q) Is blocking a desirable practice?

(A) Blocking is not profitable for canning house tomatoes.

(Q) How control damping-off?

(A) Use sterile seed and soil. Treat seed with an organic mercury solution as soon as the seed comes through or sprinkle the surface of the soil with

Copper Carbonate dust of about 1 oz. per square yard after planting seeds. Keep surface of the soil dry. Good ventilation of plant bed. Do not sow the seed too thick.

(Q) How may flea beetles be controlled in tomato plant beds and cold frames?

(A) By the use of pyretheum soap spray which can be obtained from Mc Cormick & Co. Inc., Baltimore, Maryland. This kills the beetles and does not burn the plants but is much more expensive than bordeaux. Bordeaux which acts as a repellant for flea beettles is the standard control.

10:30 - Soils, field preparation planting, cultivation, and fertilization of tomatoes.

by
Mr. L. M. Goodwin, Canning Crops Specialist, Denton, Maryland.

Round Table Discussion.

(Q) At what distance should plants be set in the field to give maximum yields of fruit of desired size and quality?

(A) No exact recommendation was made as the planting distance depends on the soil and the type of growth of the variety. Vines should not intermingle to any extent. Probably 3.5 x 4 is the minimum while rank growing varieties on rich soil might be planted 4 x 5 feet apart or perhaps more.

(Q) What amount and what grade of fertilizer with and without stable manure can be applied most profitably?

(A) Supplement each ton of manure with 50 lbs., super Phosphate (Acid Phosphate) to give a well balanced fertilizer. If Commercial fertilizer is used 500-1000 lbs. of 4-8-7 is recommended.

(Q) What is the best method of applying fertilizer? In the hill, broadcast, or part each way?

(A) Apply fertilizer in row and mix it well with the soil before setting the plants in the field. Also give plants a side dressing of 200-300 lbs. of a Nitrogen mixture of 1 part Nitrate of Soda, 1 part Sulphate of Ammonia, and 1 part Organic Nitrogen about the time the blossoms firt appear.

(Q) How often should tomatoes be cultivated?

(A) Sufficiently often to keep down weeds.

(Q) At what stage of vine growth should cultivation cease?

(A) When blossoms begin to set fruit.

(Q) Is liming necessary for tomato production?

(A) Lime is not necessary for tomatoes themselves but it may be necessary if you want to include a leguminous cover crop in the rotation.

(Q) Disposal of cannery waste? particularly tomatoes, its effect when used on land as a source of organic matter?

(A) Tomato waste is a good source of organic matter for the soil but it should not be applied to land that will be planted to tomatoes within a year as it is liable to infect the soil with disease.

(Q) What are the best cultural methods to control insects and diseases?

(A) Turn dead plants and refuse well under the ground. Fall plow for septoria and early blight. If ground is infected with fusarium practice a long rotation and grow resistant varieties such as Marglobe, Norton, Norduke, and Columbia.

(Q) How much damage is done in Maryland by tomato mosiac? How may this disease be avoided?

(A) There is considerable mosiac loss in Maryland. If a plant is infected before blossoming one may get a 90% loss, while if infection is delayed till the first fruit is set the loss may be less than 10%. Rogue out the early infected plants and set healthy ones in their place.

(Q) How may Septoria (leaf spot) be controlled?

(A) Give plants a liberal supply of Nitrogen to keep them growing and they will be more or less resistant to Septoria. Fall plow tomato land and turn all refuse under the soil.

(Q) What may be done to control blosson-end rot?

(A) Nothing can be done except the use of cultural methods that will give an even supply of moisture as blosson-end rot is due to sudden drought conditions.

(Q) How can cutworms be best combatted?

(A) Plant on soil that was cultivated the previous year. If serious use a poison bran bait. It is more satisfactory for each canner to mix up a large supply of bait than to leave it up to the individual farmer.

(

THURSDAY AFTERNOON - TOMATOES AND PEAS

1:30 P. M. "Right and Wrong Methods in Harvesting and Delivering Tomatoes."

by

Dr. H. F. Hall, Camden, New Jersey.

Round Table Discussion.

(Q) If tomatoes must be held at the cannery on account of volume of deliveries, what are the best storage conditions?

(A) Pick red ripe tomatoes only - Leave out rotted tomatoes. Do not hold over 24 hours. If necessary store in baskets in an open shed.

(Q) How can a canner control the supply of row stock?

(A) No answer.

(Q) What are the disadvantages, if any, of holding tomatoes at the cannery for a couple of days or so before using them?

(A) There is a big waste if held a couple of days. Pick red ripe tomatoes only and use immediately.

(Q) If tomatoes must be held at the cannery on account of volume of deliveries, what are the best storage conditions?

(A) Store in baskets in a covered shed with ample ventilation.

(Q) How can you persuade growers to deliver better quality tomatoes?

(A) Make more definite contracts with growers concerning quality of tomatoes to be delivered, and adhere to the contract.

2:00 "Varieties, what have we that's good?"

by
Prof. Fred. W. Geise, College Park, Maryland.

The following material taken from progress reports submitted from time to time by Geise and Goodwin.

Selecting the variety - The importance of good seed of a variety or selection suitable for the locality cannot be overemphasized. Certain Canners' Associations, as for example the Tri-State Packers Association, realizing the importance of good seed have requested their respective State Departments of Agriculture to co-operate with them in producing appreciable quantities of reliable seed of adapted varieties for distribution to their growers. Good results are of course, also secured from home selected seed or that obtained from reliable seedsmen.

The past two years 1926 and 1927 the Maryland Extension Service has co-operated with the Maryland Experimental Station in conducting a series of variety tests. These tests with two exceptions, College Park and the Ridgely Sub-Station wer conducted

under farm conditions in the principal tomato growing counties of the state. The cultural methods employed were those being used for the regular canning house crop on the farms where the tests were carried on.

Table-1-Two year summary tomato variety tests.

Variety.	1926-six tests. Avg. yield tons per Acre	1927-Thirteen tests. Avg. yield tons per acre.	2 Yr. Avg.
Marglobe	5.76	9.05	7.40
Indiana Baltimore	5.63	8.91	7.27
Radebaugh (Tri-Sta)	5.80	8.56	7.18
Columbia	5.35	8.76	7.05
Bonnie Best	6.21	7.90	7.05
Greater Baltimore	5.55	8.21	6.88
Norton	4.40	8.45	6.42
Stone	4.66	7.87	6.27

The six variety tests reported for 1926 were conducted in the following counties: Prince George, Cecil, Talbot, Caroline, Worcester, and Kent.

For 1927 the tests wer conducted in Prince George, Carroll, Howard, Harford (2), Worcester, Cecil, Kent, Caroline (2) and Talbot (3).

In addition to the tests reported in Table 1 tests were conducted in Dorchester County on land known to be infested with Fusarium Wilt and are reported in Table 11.

Table 2. Two year summary tomato variety tests on Fusarium infested soil.

Variety	1926 - 1 test average yield tons per acre	1927 - 2 tests average yield tons per acre	Two year Average
Marglobe	3.1	4.90	4.00
Columbia	2.3	4.56	3.40
Norton	1.5	4.00	2.75
Radebaugh(Tri-S)	1.5	3.48	2.49
Norduke	.37	4.22	2.29
Stone		2.74#	2.29

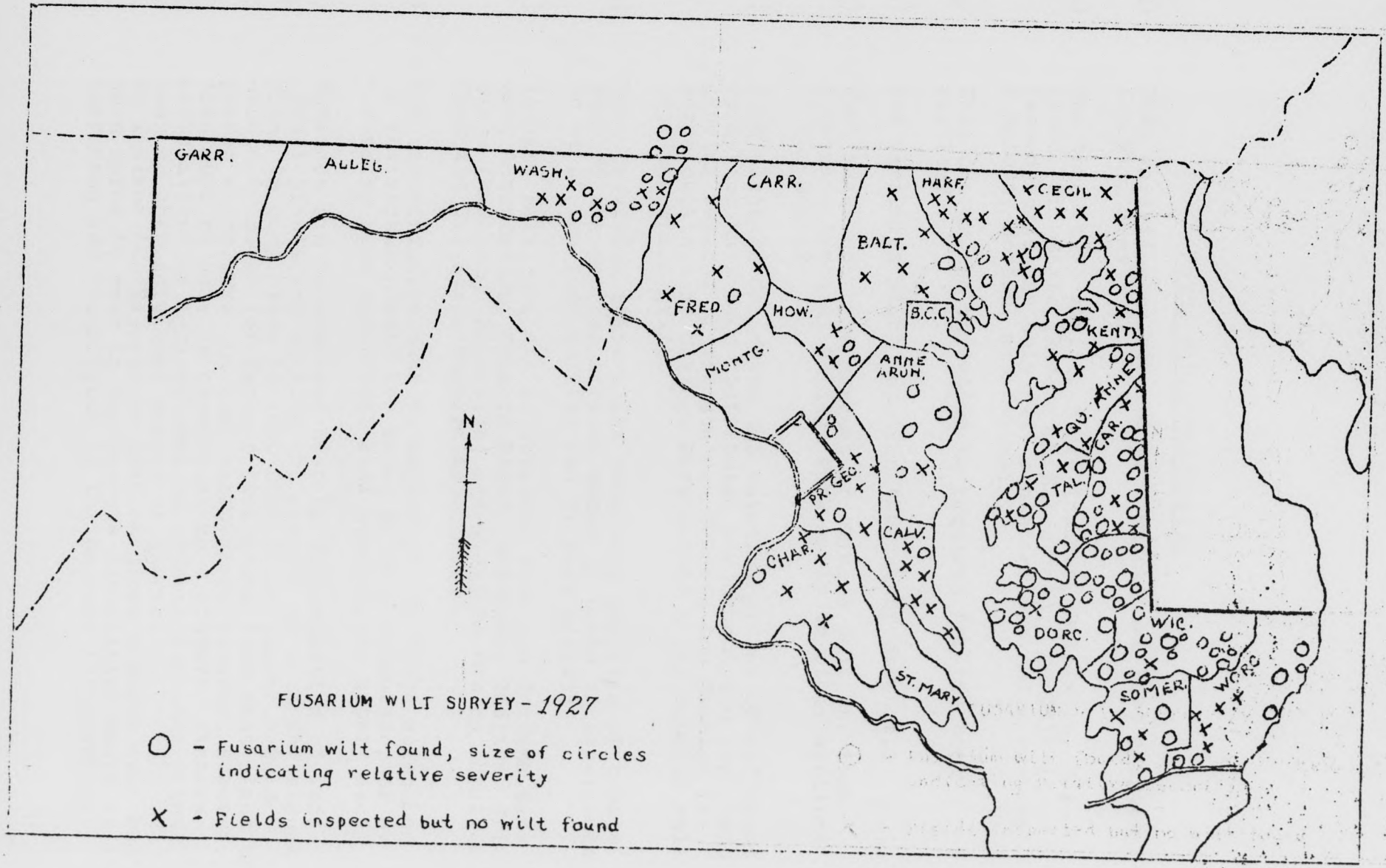
Average for two tests 1927. Not tested on Wilt soil 1926.

Varieties resistant to Fusarium Wilt, Marglobe, Columbia, Norton, and Norduke, were used in the tests reported in Table 11, in comparison to non-resistant varieties, Radebaugh and Stone in order that the reduction in yield from the wilt factor could be observed. The percentage of plants infected with disease in the case of the non-resistant varieties was sufficiently high to be considered an important factor in lowering the production, while practically all the plants of the resistant varieties showed no outward evidence of wilt.

The yield of all varieties in the 1926 test were abnormally low. This was due in part to the extreme unfavorable season and in part to the character of the plot of soil used. The plot was selected because it was known to be infested with wilt. It was low in fertility, received no manure and only a moderate application of commercial fertilizer. Norduke in particular made a very poor showing. The vine growth seemed to be sufficient and no vines went down with wilt but the set of fruit was very light. This was possible due to unfavorable weather at blossoming time as the variety compared favorable with the others in the two tests in 1927.

The accompanying map indicates the results of a survey made by Dr. Norton of the Experiment Station, showing in a general way where fusarium wilt has been observed, and roughly the extent of the infection.

Map on Page 8A


GARR.
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MONTG.
ANNE ARUN.
QU. ANNE
CAR.
TAL.
PR. GEO.
CALV.
CHAR.
DORC.
WIC.
WOR.
SOMER.
ST. MARY
N.
FUSARIUM WILT SURVEY - 1927
O - Fusarium wilt found, size of circles indicating relative severity
X - Fields inspected but no wilt found

Round Table Discussion

(Q) What varieties or strains of tomatoes are best adapted for Maryland?

(A) The three best varieties are Indiana, Baltimore, Marglobe, Tri-State (Radebaugh Selection). On Wilt infested soils use only wilt resistant varieties such as Marglobe, Norton, and Columbia.

(Q) Will one or two varieties be required for the best results?

(A) Two varieties might lengthen the season somewhat.

(Q) What assurance have growers or canners that the tomato strain tests at College Park apply in other sections of the State?

(A) Test plots to determine the relative yields of different varieties have been distributed throughout the important growing regions of the state. Grading and Canning records obtained at College Park should apply equally well over the whole state.

(Q) What provision isthere for obtaining supplies of tomato seed of the precise strains shown by tests or experience to be of the best quality and highest yields?

(A) Indiana Baltimore may be obtained from the Indiana Canners Association, Kenneth Rider, Matthews, Indiana. Tri-State (Radebaugh Selection) and Marglobe can be obtained from the Tri-State Canners Association.

(Q) How can varieties best be improved? By field selection of individual plants for seed, by mass selection, or by depending upon commercial seed companiesto supply seed?

(A) Tomatoes can be improved best by the selection of individual plants and testing the progeny of each individual plant in camparison to that from other plants. Seed should be saved for further increasing from that plant or plants which give the best performance record. However, this must be done by commercial seed growers, canners associations or agricultural experiment stations rather than by the individual canner or grower.
In Indiana the Experiment Station grows a stock seed and then turns it over to the Canners Association where it is increased and distributed to the canners for planting.

(Q) Can canners profitably embark on tomato seed improvement enterprises?

(A) Tomato seed improvement can best be carried out by Canners Associations or through the Agricultural Experiment Stations.

(Q) What is a good yield of canner tomatoes?

(A) A grower should average at least seven to eight tons of tomatoes per acre over a period of years.

3:00 "Experimental results in pea growing"
by
Dr. V. R. Boswell, College Park, Md.

Choosing a field for peas.

Soil- Prefer a light to medium loam because it is earlier well drained and less subject to disease.

Acidity - Results are rather conflicting but if the land is fertile with high organic supply, plenty of moisture, and has a lime requirement of 1000 lbs. or less liming for peas is of little or no value. If lime requirement is around 5000-6000 lbs. a very marked response is obtained from lime.

Rotation - Work at New York indicates that peas should follow a cultivated crop for best yields.

Soil Preparation - The field should be plowed in the fall if practical which is not the case on light soils that leach readily. In such as case the soil should be plowed very early in the spring, especially if a cover crop has been used because it decays more rapidly if it is young and tender than after it becomes old and woody.
The seed bed should be well prepared. Some results at the Idaho Experiment Station show a 76% increase for well prepared soil over that which is poorly prepared.

Depth of Planting - At College Park the best results were obtained when the seeds were planted at a depth of 2½ inches and the poorest at 5 inches. The seed should be planted as shallow as possible and still get sufficient moisture for germination, which means on the lighter soils of Maryland fairly deep.

Rate of Seeding - There is little evidence upon the rate of seeding but New York obtained best results with 4½ bu. per acre. The Maryland Experiment Station of Ridgely obtained the best results for a three year average from 4 bu. per acre.

Sizing of Seed - Sizing of seed has been discontinued by Western growers because they feel it is of no value. Woodbury reported that in the Middle West where the growers took out the smallest group made up of 3-4 percent of the total they got a much earlier maturity from the small seed. but if the smallest group made up 10-12% no effect was noticed. It is posible that the small seeds are the result of a mixture of varieties.

Time of Planting - Four years results at Maryland show that late planting results in:

1. Decrease in time required to reach blossoming stage.
2. Decrease in time for germination.
3. Decrease in number of pods and total yield.
4. Late planted peas remain in a condition for harvesting a shorter time than early planted peas.

A greater spread of harvest is obtained from peas planted in different fields than is obtained from peas planted in the same field on different days.
"Peas then should be planted as early as the ground can be worked in a good condition."

Fertilizer - Nitrogen seems to be the limiting factor. Experiment at the Ridgely Station show that 400 lbs. 7-6-5 is better than 500 lbs. 4-8-4. An analysis of around 7-6-5 should be used on the Eastern Shore. In Western Maryland Dr. Boswell obtained 20% increase from Nitrate of Soda applied at the rate of 100 lbs. per acre just before planting. The addition of Phosphorous and Potash did not apparently increase the yields but the Potash plots matured 12 days earlier.

Inoculation - Inoculation keeps peas greener, makes them sweeter, with a larger number of smaller peas, even if total yield remain about the same. On new land yields are increased.

4:00 P. M. Round Table Discussion

Lead by Mr. E. G. Cover, Easton, Md.

(Q) What amount of seed per acre will give the largest returns and best quality?

(A) Opinions varied for Eastern Shore use 4 bu. on good land and 4½ on poor land. On heavy land in Western Maryland 4.5 bu. of seed should be planted.

(Q) How deep should pea seed be planted?

(A) 2.5 inches or thereabouts - just deep enough to give sufficient moisture for germination.

(Q) How much and what grade of commercial fertilizer is best for peas?

(A) In the absence of better information, about 400 lbs. 7-6-5 on the Eastern Shore and 4-8-4 elsewhere.

(Q) Does it pay to inoculate pea seed? What precaution should be taken? Where can the inoculants be obtained?

(A) Inoculation is very profitable on new land. Inoculate immediately before peas are put in the drill. Soil inoculation is preferred or obtain cultures from a good reliable firm.

(Q) When should fertilizer be applied?

(A) Apply the fertilizer just ahead of the drill and mix well with the soil.

(Q) What crop rotation is best for the control of insects and diseases?

(A) Have peas on the land once in five years. If land is free from disease use a seven year rotation, two years in peas and five in other crops.

(Q) How important is the soil lime requirement in the growing of peas?

(A) Not important if low-use lime if the lime requirement of the soil is much over 1000 lbs.

(Q) If seed peas are inoculated, should the work be done by the canner before distributing the seed, or by the growerx on their own farms?

(A) Grower should inoculate the seed just as he puts it in the drill.

(Q) How early should Alaskas be seeded? What damage is there from delayed seeding?

(A) Seed as soon as the ground can be prepared in the Spring. Delayed seeding will greatly decrease the yield.

(Q) How true to type do commercial pea seed strains run?

(A) Anywhere from .1 to 90% mixture may be found in commercial seed.

(Q) Is grading pea seed for size of benefit?

(A) Only benefit - it gives more even planting. Removal of 3-4% of the smallest seed may give a more even maturity.

(Q) Should pea seed be treated with the new disinfectants? If so how isthe work done, and who should do it?

(A) Organic mercury treatments cut down disease - however, treated seed cannot be inoculated as the inoculant will be killed by the treatment.

(Q) What is a safe acreage per viner?

(A) 50 acres.

(Q) Should peas be harvested faster than they can be vined?

(A) No.

(Q) Is there an advantage in drilling peas each way?

(A) No.

(Q) What organisms cause pea blight and how may they be controlled?

(A) Aschochyta - blight - disease not considred of economic importance in Maryland.

(Q) What conditions encourage root rot.

(A) Wet soil, hot weather and low soil fertility.

(Q) How can pea aphis be controlled?

(A) It cannot be controlled practically - plant early to avoid the aphis.

FRIDAY MORNING

SWEET CORN

9:00 A. M.

"Seed Corn Breeding and Selection."
by
Professor W. B. Kemp, College Park, Md.

The Experiment Station is carrying out three lines of work with sugar corn.

1. Comparison of commercial seed corn sources as results indicating that local grown seed is slightly better than seed from other states.

2. Very promising results have been obtained at the Experiment Station by crossing sugar corn with field corn and selecting for a large high yielding strain of sugar corn.

3. The developement of hybrids from two inbred strains of sugar corn the first generation of which is high yielding and very uniform in growth and maturity. The latter is a very desirable quality - Caution - Seed saved from the above breaks up and does not possess the desired uniformity so a new cross must be made each year.

9:45

Grading, seed treatment, soil preparation, fertilization, cultivation and suckering."
by
Mr. F. O. Mitchell, Perrymon, Maryland.

Round Table Discussion

(Q) How far is it practical for canners to breed and select seed corn?

(A) A canner might select for uniformity or possible produce hybrids from imbred seed.

(Q) What can be done to provide more uniform maturity of sweet corn?

(A) Select corn from the field for uniformity of maturity also grading seeds for size gives more uniform maturity.

(Q) Would grading seed for size before planting pay canners?

(A) Yes - insures more uniform planting of seed - also more uniform maturity.

(Q) What preparation should the field receive before planting seed?

(A) A level well worked seed bed is needed.

(Q) How much and what commercial fertilizer is most profitable?

(A) 200-400 lbs. 5-8-5 broadcasted or manure supplemented with 50 lbs. superphosphate (acid phosphate) per ton of manure. When corn is planted year after year use cover crops of crimson clover or vetch.

(Q) What is the lime requirement of sweet corn?

(A) Corn will respond to lime if soil is very acid - Apply at any convenient time in the rotation.

(Q) How deep should the seed be planted, and should the depth vary with early and late plantings?

(A) Plant early corn shallower than late - 1.5 to 2" deep, depending on soil and moisture conditions.

(Q) What distance should corn be planted and should it be drilled or checked for maximum hield of ears of best size and quality? If checks how many stalks should be left per hill?

(A) Checking or drilling are both good - Check on weedy soil Drilled spacing 12-14" or 2-3 stalks per hill when checked.

(Q) How often should corn be cultivated, and when should the first cultivation be given after planting?

(A) Harrow corn as long as possible and then cultivate shallowly to keep down weeds. Start harrow as soon as corn isplanted.

(Q) Should sweet corn be suckered?

(A) It does not pay to sucker sweet corn.

(Q) What is corn root rot? How can it be controlled?

(A) Corn root rot is a disease that rots the root and weakens the plant - treat the seed with organic mercury dusts. Potassium also helps control root rot.

(Q) How may wire worm and root worm be controlled?

(A) Control by crop rotation - also get a rapid early growth and the plant outgrows the effect of the insect to some extent.

(Q) How may corn ear worm be controlled?

(A) No definite control - A method of dusting may be developed.

11;15 A. M.

Round Table Discussion
by
N. H. Fooks, Preston, Md.

Mr. Fook's experiences show that selection can practically change the type of corn in 2-3 years. Repeated selection for transparent kernels gave a corn without body.

Selection of corn for uniformity in size and maturity is very beneficial as it will give a canner seed that is mucy more uniform and satisfactory than commercial seed.

A Hybrid of two imbred strains from Connecticut was very satisfactory as it produced a high yielding corn that was very uniform in maturity and a higher yield of canned material per ton probably due to a larger extent to the absence of small immature ears when it was harvested.

Dr. Appleman of the University of Maryland gave an analysis of translucent corn compared with opaque corn and showed that at the early doe stage when corn is canned the translucent corn is low in starch and high in dextrin compared to the opaque corn. This high per cent of dextrin which does not swell in the can accounts for the light body of the translucent corn.

1;30-2:15 A. M.

"Bean Diseases and Sources of Seed"
by
Dr. R. A. Jehle, College Park, Md.

The most important bean disease of Maryland is Anthracnose, characterized by black sunken spots on the leaves and pods followed by blight (infected areas on leaves and pods appear watersoaked) and mosiac (characterized by a mottled appearance of the leaves.)

These diseases are seed born so they can be controlled by using disease free seed if possible. Anthracnose, especially, can be controlled by using Western seed becuase it does not occur on seed from the semi-arid regions of the west due to the dry condition under which the seed is grown.

Round Table Discussion on Beans

by

Mr. A. D. Radebaugh, Baltimore, Md.

(Q) What diseases cause most serious loss of beans and how are these controlled?

(A) Anthracnose - Blight - Mosiac. Control Anthracnose by using seed grown under semi-arid conditions in the West.

(Q) Will the use of bean seed produced in semi-arid regions help overcome any of these diseases?

(A) Yes, it will help control Anthracnose.

(Q) Does crop rotation help to control bean diseases?

(A) Yes.

(Q) Does picking beans while the crop iswet from dew or rain aid in spreading diseases?

(A) Yes, Do not pick or cultivate beans when vines are wet.

(Q) Is it practical to spray or dust the bean crop for disease controll?

(A) No.

(Q) What is the present condition of commercial bean seed as regards infection?

(A) Seed from the semi-arid west particularly Idaho is free from Anthracnose.

(Q) Would home saving of seed help in the securing of disease free seed?

(A) Yes - If seed stock is free from disease.

(Q) What varieties are the most resistant to diseases?

(A) Refugee and French Horticulturals are somewhat resistant to Anthracnose.

(Q) Is Semesan treatment of value to beans?

(A) No.

(Q) How much and what grade of commercial fertilizer should be used?

(A) 400-800 lbs. 5-8-5 on early planting.

(Q) Should beans be inoculated? If so, should the canner or grower do the work?

(A) Inoculation is still in the experimental stage. Soil is probably already inoculated.

(Q) What is the best rate of sowing bean seeds? Should this rate vary with the variety?

(A) 1 bu. giant stringless. ½ bu. refugee per acre.

(Q) Which is preferable -- drill or hill planting?

(A) Drill planting.

(Q) What varieties give best success for canning?

(A) Burpees or Giant Stringless.

(Q) What is a good ratation for beans?

(A) Follow corn or peans with beans.

(Q) Wht type of soil is best suited for canning crop beans?

(A) Medium loam.

(Q) Should bean soil be limed?

(A) Lime if soil is acid.

(Q) How and when should beans be cultivated?

(A) Shallow cultivation necessary - Do not cultivate when vines are damp or wet.

(Q) What is the Mexican bean beetle and how can it be controlled?

(A) Use calcium Arsenite dust. Plow under beans as soon as crop is harvested.

3:15 P. M. "Insect Control of Canning Crops"
by
Dr. E. N. Cory, College Park, Md.

Peas:

Pea aphis is hard to control. Use 4% Nicotine dust if peans are in rows.

Beans:

Seed corn maggot is often found on early beans if the weather is cold. It is more abundant following a green manure crop. Plow green manure under early in the spring.
Mexican Bean Beetle is in Western Maryland and Hartford and Frederick Counties. Dust with one part calcium arsenite and seven parts hydrated lime.

European Corn Borer:

Burn cobs of seed from other states. Not much danger from shelled corn obtained from infected regions.

Japanese Beetle:

Localized infected area in Maryland are being treated with carbon bi-sulfide emulsion which will eradicate the beetle. Products brought in from Quarantined areas are certified for freedom from the beetle.

Asparagus Beetle:

Dust with calcium arsenite after the cutting season. Keep the grass cut clean during the cutting season, and if the beetle is bad, dust with 4% Nicotine sulfate.

3:45 P. M. Round Table Discussion on Asparagus and Spinac..
conducted by
Professor F. W. Geise, College Park, Md.

(Q) What is the best variety of asparagus for canning?

(A) Mary Washington.

(Q) Can Asparagus be grown profitable for canning only, or should part of it be sold on the market to make the crop profitable to the grower?

(A) Under present conditions it would seem best to sell part of it on the market, if the early market is good. When the price goes down, sell it to the cannery.

(Q) When should asparagus be fertilized?

(A) No appreciable effect from time of applying fertilizer. Use about a 1000-1500 lbs. of 7-6-5. Lime the soil if it is very acid.

(Q) Does spinach require lime?

(A) Lime if soil is acid. As spinach soil must be practically neutral.

(Q) What fertilizer practices are best for spinach?

(A) Use manure or green manures plus 800-1200 lbs. of 9-8-3. Top dress with 200-300 lbs. nitrate of soda once or twice during the growing season.

(Q) What are some good varieties of spinach for canning?

(A)
1. Va. Savoy for fall because it is blight resistant.
2. Thick leaved Viroflay or Henderson Thick Leaved are good varieties for early spring canning. Kind of Denmark is also good and also longer standing.
3. Princess Juiliana or Victoria are good market varieties for spring.

VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers Association.
W. R. Ballard, Secretary-Treasurer.

Vol. 5 No. 5. College Park, Maryland May 1928

Paper Mulches

Paper mulches have been used for some years in the sugar cane and pineapple plantations of Hawaii for keeping down the weeds and for retaining moisture. The results indicate that the paper mulch is not only effective in keeping down weeds but induced a much more vigorous growth of the cultivated plant.

Growing out of this use of the paper mulch interest has grown in its extension to other crops. L. H. Flint, Associate Physiologist, Biophysical Laboratory, Bureau of Plant Industry, U. S. Department of Agriculture, has just issued Technical Bulletin No. 75 under the title Crop Plant Stimulation with Paper Mulch. Some of his conclusions are that "the type of paper used for pineapples was found to bring about a definite and substantial increase when applied to a wide variety of crop plants in the Eastern United States." The details of the experiments should be secured from the bulletin.

The particular type of paper being manufactured for this purpose is known as Gator Hide Mulch Paper and is sold by the International Paper Company, Pershing Building, Park Avenue and 42nd Street, New York City.

The investigations of the U. S. D. A. show that any impervious dark paper free from toxic soluble materials such as tar may be as efficaceous in stimulating plant growth as that manufactured especially for use as a mulch. The use of any such unperforated papers between the rows of crop plants is not understood to be in conflict with the existing patents.

The Secretary is skeptical of the practical value of the paper mulch in the commercial culture of vegetables, but if any members try out the method, he would be grateful for reports of results.

Tomato Plants Scarce

Due to severe injury by late spring frosts tomato plants are scarce in some parts of the State and the crop will get a late start because of the cool season. The demand for plants seems to be active.

Early peas appear to be in excellent condition since the cool season has favored their development. Dr. Boswell of the Experiment Station has seventy strains of peas in tests for varietal purity and the presence of rogues. Sixty-five of these are strains of the Alaska. Mr. Hunter is observing these plots for the purpose of checking up on the attacks of diseases.

Mushroom Culture

A number of important commercial producers of mushrooms are located at Kenneth Square, Pennsylvania, and vicinity. The methods in use are not markedly different from those of previous years bu the development of spawn in ~~liquid~~ pure cultures eliminates to a large extent one of the greatest elements of chance. The more important growers have developed very efficient methods of filling the houses and carrying on the operations incident to mushroom culture.

Dependable Statistics

Detailed statistics of the various vegetable crops are often very difficult to obtain, so that it is frequently necessary to fall back upon estimates from various sources. Machinery is gradually being developed, however, which should give us before many years more accurate figures on the crops of interest to vegetable growers. Reports of farmer's intentions to plant is being tried out and this may grow into an important guide as to whether to increase or to curtail the acreage of specific crops.

Roadside Markets

The marketing division of the University of Maryland staged two types of roadside markets at the Farmer's Day celebration at College Park on Saturaday, May 26th, in which were displayed an inviting array of fruits and vegetables. One type was open with large umbrella shade, the other a closed in structure with sides which let down for use as display shelves. Visitors commented favorably on the attractive appearance of these stands.

Asparagus Beetles Plentiful

Serious damage to asparagus has been done in some parts of the State by asparagus beetles. Arsenate of lead has been used to some extant for the control of this pest, but the use of such a poison on products to be eaten is open to objection. Some preliminary work by entomologists indicate that the liquid pyrethrum manufactured by the McCormick Spice Company of Baltimore, is very promising as a control measure. It apparently is not very dangerous to human beings and also is not so likely to injure plant tissue as do the more common insecticide. The fly in the ointment is the cost of the material. However, if it proves to be exceptionally effective, the cultivation of the pyrethrum plant might develop into an important industry in this country.

VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers Association.
W. R. Ballard, Secretary-Treasurer.

Vol. V. No. 6. College Park, Maryland June 1928

The Callusing of Cut Seed Pieces of Potatoes.

The common practice of drying off the cut surfaces of seed potatoes by spreading thinly in the air or even by dusting with powdered sulfur appears to be wrong in the light of recent experimental work. The results of these tests indicate that the proper conditions for callusing are moist conditions and a temperature of about 65° Fahrenheit.

Moist soil at planting time in midsummer supplies about the right conditions and where potatoes can be cut and planted at once this is undoubtedly good practice. Should the soil be dry, however, considerable loss from rotting may be expected. If the seed potatoes must be cut some time before planting can be done, the cut pieces should be stored in boxes or other containers tight enough to maintain a moist condition.

The callusing of the cut surfaces of the potato is important in that it prevents the entrance of rot germs, which might otherwise secure a foothold and result in serious losses.

New Food For Diabetics

Growing out of experiments conducted by the U. S. Bureau of Standards in producing granulated levulose sugar from Jerusalem Artichokes, the Jeru Artichokey Products Company, of Denver, Colorado, is preparing to place on the market a number of new products. Jeru Artichoke Flakes similar to Potato Chips are now being distributed. Preparations are being made to market evaporated artichokes similar to dried apples, jam similar to peanut butter, relish similar to gherkin relish and syrup similar to maple syrup.

The Artichoke Flakes contain Inulin and Levulose, a sugar nearly twice as sweet as cane sugar. They are said to be rich in vitamins. They are cooked in highly refined vegetable oil.

The Jerusalem Artichoke was cultivated by the Aborigines of America and was an important article of food. It has been grown in Italy for 300

years or more. It can be substituted for potatoes although it is probably less well utilized. It should be steamed rather than cooked in water to prevent loss of flavor and aroma, and a still better plan is to bake in a hot oven with a little butter and salt. No water should be added.

Since this artichoke is a perennial it might have some advantages over the Irish potatoes, if satisfactory methods of utilizing and marketing them can be worked out.

Do You Know Beans About the Beetle?

If you don't, you have a shock in store for you, provided you grow beans. The Mexican Bean Beetle is a real enemy and you are courting disaster if you believe in unpreparedness. Get Extension Service Circular No. 64, entitled "The Mexican Bean Beetle" and learn something of his ways and the approved methods of checking his attacks. Spraying with Bordeaux arsenate mixture or dusting with the calcium-arsenite-lime mixture is effective early in the season. It is very important to destroy as far as possible the first beetles which appear, to reduce the amount of egg laying. Preliminary tests with Insekto an extract of pyrethrum combined with soap at a dilution of 1-1500, has given excellent results. Arsenical applications should be discontinued when the snap beans are half grown. The Circular will give you full details.

The Potato Tour Beckons

The Fifth Annual Worcester County Potato Tour will be held June 22nd, following the Virginia tour the day previous.

Worcester County leads the State of Maryland in the production of white potatoes, growing about eleven thousand acres each year and producing between one-third and one-half of the total production for the entire State.

The route of the tour will be through the largest potato growing sections in the county. This will give you an opportunity to observe extensive growing fields and the work being done in the county to better this industry.

The important features of the tour will include a visit to the early Cobbler Strain plots at the farm of E. E. Nock, Stockton, and F. J. Dukes & Bro., Girdletree, as well as the certified seed plots at F. J. Dukes'; visits to the tuber unit plots at Handy Truitt's, Snow Hill, and visits to the University of Maryland Experimental Plots, showing the effects of different types of fertilizers on potatoes at the Johnson farm, Snow Hill, and Taylor farm, Pocomoke.

Where Is Your Paper Mulch?

The following item from the Journal of the Market Garden Field Station, Waltham, Massachusetts, under the heading, "Its and Ill Wind That Does Not Blow Somebody Some Paper Mulch" may interest you.

"After attempting to lay and hold down several rools of paper mulch we feel like the backyard poultry keeper whose neighbor was a backyard gardener, wondering how to keep the "birds" home. We are trying several makes of paper on cabbage, onions, carrots, cucumbers, and tomatoes. We are using stones, wire, and earth to hold the paper down and still find it necessary occasionally to recover strips of paper from our neighbor's apple tree. We are also planting the seeds and setting the plants in various ways. About the middle of June we should have some interesting comparisions to show, so if you are interested you may consider this a personal invitation to come here the 13 of June and help us look for the paper.

VEGETABLE GROWERS' NEWSLETTER

Issued by

The Maryland Vegetable Growers' Association,
W. R. Ballard, Secretary-Treasurer.

Vol. 5. No. 7. College Park, Maryland July 1928

Canteloupes Want Sweet Soil

While canteloupes do not require as heavy liming as spinach, beets and some other vegetables, they do need medium alkalinity. On acid soils they develop a condition resembling mosaic.

On plots at the Maryland Experiment Station, the use of dried blood and leuna-saltpeter produce a sufficiently acid condition in the soil to affect the growth of the canteloupes and to give the foliage a yellow mosaic-like appearance.

Early Tomato Shipments

Shipments of green wrap early tomatoes has been going forward on the Eastern Shore with crop and returns satisfactory. Marglobe is the principal variety grown and, while very suitable for shipping, is too late maturing for the first shipments, so that Penn State Earliana, Sunnybrook and other good strains of Earliana are in demand for starting the season.

Early plantings of canning house tomatoes look good but the later settings are not so promising. The value of the cloth covered cold frame, where properly handled, has again been demonstrated as a means of securing early plants.

Potato Growers Down in the Mouth

It is the same old story --- too many potatoes to be absorbed by the markets in the short period available. To complicate matters the crop from North Carolina and other sections were dumped on the markets at the same time. Growers are still shipping to defray costs of barrels, fertilizers, etc. An important element in the situation this year is the buying up of stocks directly from growers by the chain stores through their purchasing agencies.

Broccoli Tests

The University of Maryland, in cooperation with the U. S. Department of Agriculture, is planning an extensive test of strains of "Broccoli", this word in Italian corresponding to our American word "greens". In order to make this test as complete as possible, the institution proposes to include samples of stock sent in by growers who may think they have outstanding strains. A quarter of a pound of seed will be sufficient for the test so that any member who has such stock may forward sample of seed at once to the University of Maryland in care of the Secretary of the Vegetable Growers' Association.

Mulching Rhubarb

At the Maryland Experiment Station, Mr. Thomas H. White, has been producing good rhubarb without the use of manure. A high grade fertilizer, such as a 7-6-5 alone has given excellent results but where a mulch of soy beans was given the fall previously the yield was practically doubled. Where manure is scarce it might, perhaps, be worth while growing soy beans on some other plot of land mowing the beans before the leaves begin to drop. The crop should be raked and piled while still green and applied as a mulch at that time or put on later in the season. While this is the first year for the test, the results have been quite promising.

Bulletin Revised

The U. S. Department of Agriculture has just issued a revised Farmer's Bulletin on Cucumber Growing. This is bulletin No. 1563 and may be secured by addressing the Secretary of Agriculture, Washington, D. C.

It may be news to some growers to note the comparative size of the industry in Maryland. The bureau of Agricultural Economics in reporting the car-lot shipments for the years 1920-26 inclusive gives the following figures:

	1920	1921	1922	1923	1924	1925	1926
Maryland	297	343	368	446	311	598	487
North Carolina	408	641	687	1175	1639	1562	869
South Carolina	525	664	887	720	918	794	668
Florida	835	1414	2034	1647	1381	1963	1982

As will be seen by the Table, Florida and the Carolinas are important producing centers.

The bulletin discusses soil requirements, cultural methods and the control of insects and diseases. The culture of cucumbers in frames as carried on in the Norfolk section is given considerable attention.

The consumption outlook in the United States is stated to be such as not to warrant any material increase in the acreage planted to this crop.

How Much Do We Eat?

The weekly summary of carlot shipments issued by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, contains some interesting data on the volume of fruits and vegetables distributed for use as food. The last report giving figures for two weeks in July indicate that the country as a whole requires an average weekly supply of 2500 carloads of cantaloupes, 6500 carloads of watermelons, 1000 carloads of tomatoes and 5500 carloads of potatoes. When resolved down to the individual the average consumer apparently uses a comparatively small quantity. The above figures, of course, are not complete enough to give a true index as to the amounts actually consumed.

VEGETABLE GROWERS' NEWS LETTER

Issued by
Maryland Vegetable Growers' Association
W.R.Ballard, Secretary-Treasurer.

Vol. 5 No. 8. College Park, Maryland. August 1928.

The Industrialization of Agriculture: Further evidence of the tendency toward industrialization in agriculture is contained in the following article appearing in "The Canner" of July 21st, 1928.

Eastern Shore Canners Growing More of Own Crops.

Canning concerns on the Eastern Shore of Maryland are turning more each year to the production of their own raw stocks, a recent survey has shown. According to estimates compiled by the Tri-State Packers' Association, more than twenty-five percent of the 1928 pea crop was grown by the packers themselves. The percentage, it is said, is much higher than that of a year ago.

A large part of the 1928 tomato crop also is being cultivated by the owners of the packing plants. It is believed, however, that the percentage of tomato acreage grown by the packers will be less than that of the pea crop.

The entrance of the canners into the production end of the business was made a few years ago and has since made rapid strides. The principal benefit derived has been the degree of stability afforded in the operation of plants on a continuous schedule, through the guarantee of a certain amount of stocks daily.

It has also been of great advantage, according to the packers, especially in the highly perishable crops. A few hours difference in the harvesting time of many fruits and vegetables exert a marked influence on the condition and value of the packed product.

Several of the larger canning concerns on the peninsula are planning to enter the producing end to a greater extent next year, it is said.

At the recent convention of chemists in Chicago, attention was called to the development of industries for the utilization of farm products, and by-products in the manufacture of articles other than food. Reference was made to the use of casein from milk to manufacture celluloid-like articles and waterproof dressings for airplane wings. Sugar cane refuse is now finding a wide use in the form of pressed sheets for building surfaces. Corn stalks are transformed into the artificial silk "rayon". Corn cobs are converted into furfural.

Thomas Edison, after an exhaustive study of sources of rubber in common temperature zone plants, is reported as ready to commence the production of rubber from plants grown on his Florida farm. The production of levulose sugar from Jerusalem artichokes is rapidly approaching realization. It is pointed out, however, that this industrial development is not likely to bring increased revenue to the farmer unless they become a part of the corporation.

Mr. George Rommel has recently been engaged by the U. S. Department of Commerce to study the utilization of new crop plants and the development of commercial used of by-products of present crops.

Bean Anthracnose: Inspections of bean fields this season strongly confirm the opinion that the use of authentically western grown seed is a good insurance against the anthracnose, provided they are planted on fields not in beans the previous year. There appears to be some suspicion that under Maryland conditions the anthracnose may live over in the soil. The greatest danger of infection, however, undoubtedly comes from the use of seed stock infected with the disease.

Blight is rather general, but has done no great amount of damage to the crop, the injury being confirmed to the leaves. Root rots are general but slight damage to the plants has been done.

Kohl-Rabi: The delicate flavor and texture of this vegetable when well grown appeals to the taste of many consumers and is preferred to turnips. It may be grown either as a spring or fall crop, much as is cabbage to which it is closely related. Green Vienna, Early White Vienna, and Early Purple Vienna are varieties commonly grown. Seed for the fall crop should be planted early in August and for best quality should be grown rapidly. The edible "crown" is formed by a swelling out of the stem above ground. They should be harvested when two or three inches in diameter, and before they get tough and stringy. They do not develop the bitter taste which is characteristic of the turnip. The crop may be cut and stored in the same manner as other root crops.

News Item: Mr. Thomas H. White and wife are enjoying a long contemplated visit to England this summer. Mr. White came to Maryland from England as a young man and settled in Charles County, later coming to College Park where he followed market gardening for a short time before becoming connected with the Experiment Station.

It is expected that Mr. White will spend considerable time visiting such seed establishments as Sutton & Sons.

VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers Association.
W. R. Ballard, Secretary-Treasurer.

Vol. V. No. 9. College Park, Maryland. September, 1928.

Broccoli Tests: In cooperation with G. R. Cobb, former County Agent of Wicomico County and at present President of the Association, the Experiment Station has inaugurated an extensive test of broccoli. Thirty-six lots have been planted on the farm of G. L. Huston, Salisbury, Maryland, and these include the true broccoli, turnip greens and mustard types. Seed was sown on Friday, September 14th and the planting should provide considerable interest to those who are producing these crops.

The Hubbard Squash: The terms pumpkin and squash as used by gardeners do not at all follow the botanical classification. The common field pumpkin and the patty pan summer squash belong botanically to the same species, Cucurbita Pepo. Furthermore many of the hardshelled gourds are considered as belonging to this group and classified as C. Pepo (var. ovifera)

The Cushaws, Japanese Crookneck and Sweet Potato pumpkins (or squashes) are C. moschata, while the Hubbard squash and its varieties are C. maxima.

Fruit stem characters are depended upon mostly to identify the botanical groups but at best it is almost impossible with some varieties to determine for a certainty to which species they belong.

The Hubbard squash is much prized for winter storage. Different strains show considerable variation in the quality of the product although this character is influenced to a considerable degree by other factors, but especially by maturity. For this reason they should be harvested just as late as possible without subjecting them to the danger of being frosted. They should be pulled or cut from the vine with a portion of the stem attached to the fruit.

It is essential to handle fruits carefully to avoid bruises which allow the entrance of rot germs. The Hubbard squash and related sorts may be kept in storage for several months if properly handled. Unlike root crops, squashes require relatively high temperatures in storage quarters. It is generally agreed that they should be kept between 50° and 60° F, at least for the first two weeks. Considerable moisture is lost in storage. Squashes may be stored on slatted shelves one layer deep. They are sometimes piled three or four deep on the shelves, but this method is more likely to cause bruises and result subsequently in decay.

Tomato, Sweet Corn, and Snap Beans: The Truck Crop Section of the U. S. Bureau of Agricultural Economics has just issued their revised figures estimating acreage, yield per acre, and total production for these crops. Maryland's standing as compared with a few leading states follows:

Tomatoes for Manufacture.

STATE.	Acreage.		Yield Per Acre Indicated.			Production Forecast.		
				Aug 1st	Sept 1		Aug 1st	Sept 1st
	1927	1928	1927	1928	1928	1927	1928	1928
California	28,760	23,880	6.2	7.3	7.2	178,300	174,300	171,900
Indiana	42,990	49,870	3.8	4.0	3.4	163,400	199,500	169,600
Maryland	34.410	22,710	4.4	4.0	2.5	151,400	90,800	56,800
New Jersey	28,000	31,920	5.2	4.8	4.1	145,600	153,200	130,900
Total (All States)	253,850	253,540	4.5	4.4	3.6	1131,000	1,107,500	924,900

Sweet Corn for Manufacture.

STATE.	Acreage.		Yield Per Acre Indicated.			Production Forecast.		
	1927	1928	1927	Aug. 1st. 1928	Sept. 1st 1928	1927	Aug 1st: 1928	Sept. 1st. 1928
Illinois,	40,650	54,880	2.0	2.6	2.5	81,300	142,700	137,200
Iowa,	26,750	39,860	2.3	2.8	2.6	61,500	111,600	103,600
Maryland,	27,500	30,800	1.8	2.5	1.6	49,500	77,000	49,300
New York,	20,290	27,000	1.6	2.3	2.0	32,500	62,100	54,000
Total (All States)	215,430	291,210	1.9	2.5	2.2	399,000	730,000	651,800

Estimates for snap beans raised for manufacture during 1928 ranks Maryland third with its acreage of 4,360 acres and total production of 7,000 tons. New York and Wisconsin place first and second respectively.

The indicated yields per acre are: New York 1.7, Wisconsin 2.5, and Maryland 1.6 tons.

VEGETABLE GROWERS NEWS LETTER

Issued by
The Maryland Vegetable Growers Association
W. R. Ballard
Secretary-Treasurer

Vol. V. No. 10 College Park, Maryland October 1928

Potato Diseases

Dr. R. A. Jehle of the Extension Service reports that late blight was prevalent in practically all parts of the State west of the bay. The greatest damage occurred in Garrett County where unsprayed vines were killed long before they were mature. Yields were reduced from 25 to 50 per cent. Sprayed vines were only slightly injured by blight and the reduction in yield was slight and very little tuber rot was found.

In the area around Baltimore City the Russet Rural vines blighted early and this resulted in a severe reduction in yield and some tuber rot. Vines of the Jersey Red Skin blighted severely but the blight came later than in the case of Russet Rurals and there was only a small reduction in yield. Jersey Red Skin tubers dug up to the present time show practically no blight.

Certification of potatoes is rapidly being carried forward and it is hoped to include in the November issue a list of certified stocks for sale in Maryland.

Green Manuring

The place of green manuring in the maintenance of soil fertility is one of considerable importance in these days of limited manure supply. A publication of timely interest is a book on the subject "Green Manuring" by Adrian J. Pieters, Agronomist of the Bureau of Plant Industry, in charge of clover investigations.

The author reviews the literature on the subject and analyses the available experimental data. A suggestion has been made that the general subject be taken up at our next annual meeting and plans are under way for a symposium at one of the sessions. All members should be present and prepared to take part in the discussion.

Blanching Celery

The common methods of bleaching celery follow the lines of shutting out the light through the use of paper, boards, soil and other substances. This treatment destroys the green coloring matter.

Dr. R. B. Harvey of the University of Minnesota, as reported in the November issue of Fruits and Garden, has been conducting experiments in the use of ethylene gas for the blanching of celery. The method has now been worked out on a commercial basis and consists in treating celery placed in air tight containers with ethylene gas at the rate of one part to 1000 parts of air. The gas can be purchased in tanks from the manufacturers. The so-called self blanching varieties blanch in about six days and the green varieties in 11 to 12 days. Ethylene gas is non-poisonous and non-inflammable so that no danger attends its use.

The Horticultural Department Loses

Dr. E. C. Auchter, head of the Department of Horticulture, leaves the institution to take charge of the horticultural group of the United States Department of Agriculture. He will assume his new duties November 16th.

Dr. V. R. Boswell also leaves to head up the vegetable group in Washington. These men have made a distinct impression on the horticulture of Maryland and the State is the loser by these changes. The best wishes of the department and of horticultural people in the State will go with these men as they take up their new work.

The Annual Hort Show

The horticultural students of the University of Maryland are busily engaged with plans for their annual show which will be staged at the College greenhouses on Saturday and Sunday November 10th and 11th. Displays will be made of fruits, vegetables and flowers, particularly chrysanthemums. Exhibits of horticultural products from various sections of the State will be included. Educational exhibits illustrating experimental work in progress will be a feature. Everyone is invited to visit the show.

VEGETABLE GROWERS' NEWS LETTER.

Issued by
The Maryland Vegetable Growers' Association.
W. R. Ballard, Secretary-Treasurer.

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Vol. 5 No. XI. College Park, Maryland. November, 1928.

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The Annual Meetings.

The annual meetings of the Maryland Vegetable Growers' Association are scheduled to be held next January at the Royal Arcanum just across the street from the Rennert Hotel, which is the headquarters for all the allied organizations. The Vegetable Growers will have two morning sessions, the first on Wednesday, January 9th in room 13 of the Royal Arcanum, and the second on Thursday, January 10th, in room 7. Sessions start at 9:30 A.M.

The program for these sessions has been arranged so as to allow some time for discussion. It is hoped that the members will find the topics of sufficient interest to bring out personal experiences and observations which will be profitable to all. The program follows:

Wednesday, January 9th, 9:30 A.M.

Call to order, - - - - - - - - - - - President G. R. Cobb, Salisbury, Maryland.

Report of Secretary-Treasurer, - - Mr. W. R. Ballard, College Park, Maryland.

Symposium: The Maintenance of Soil Fertility, Recent Progress in Green Manuring, - - - - - - - - - - - - - -Professor F. W. Geise, College Park, Maryland.

How Green Manure Crops are Used in New Jersey, - - - - - - - - - - - Mr. Herbert R. Cox, New Brunswick, New Jersey.

Round Table Discussion — led by Mr. G. R. Cobb, Salisbury, Md.

1. Can Fertility be Maintained by the Use of Commercial Fertilizers alone?

2. How Much Organic Matter is Needed to Keep Soil in Condition?

3. What can be Used as a Substitute for Manure?

4. What Kind of Cover Crops are Best?

5. What Effect Does the Scarcity of Manure Have on the Weed Problem?

Appointment of Committees.

Thursday, January 10th, 1929.

Report of the Committees.

The Mexican Bean Beetle and What to Do With It - Dr. E. N. Cory, College Park, Maryland.

The Interrelation of Supply and Price of Vegetables ____ S. H. DeVault College Park, Maryland

Newer Developments in Tools and Equipment for Vegetable Growers. E. R. Gross New Brunswick New Jersey

VEGETABLE GROWERS' NEWS LETTER

Issued by the Maryland
Vegetable Growers' Association

W. R. Ballard
Secretary-Treasurer

Vol. 5, No. 12 College Park, Maryland December, 1928

An Omission

In the November issue certain items in the program for the morning session of January 10th of the Annual Meetings of the Association were unintentionally omitted. The following addresses should have been included:

The Inter-relation of Supply and Price of Vegetables . . . . . S. H. DeVault, College Park, Md.

Newer Developments in Tools and Equipment for Vegetable Growers . E. R. Gross, New Brunswick, N. J.

A New Sweet Potato

The Iowa State Vegetable Growers' Association is booming the Priestley sweet potato as being a variety of high quality and well adapted to the northern markets. It is described as a dry type with plump tubers, the flesh of which is bright, light yellow.

"In eight years' tests by Martin of the New Jersey Station and in two years' demonstrations by Fitch of the extension service of Iowa, the Priestley has been the top yielder on all but the lightest soils, among all known yellow Jersey varieties."

It is recommended as a variety for fancy stock and for profitable culture a little farther north than where the sweet potato is now grown and on slightly heavier lands. It should be planted slightly closer together than slender sorts.

They Grow Them, Too

The Division of Crop and Livestock Estimates of the U. S. Bureau of Agricultural Economics reports that the 1928-29 tomato crop of the Bahamas will equal, if not exceed, that for

1927-28 when 189,000 bushels were exported. Since the hurricane of September 1928 weather conditions have been especially favorable for the tomato crop and the quality of the fruit is said to be superior to that of last season.

Practically the entire crop will be shipped to the United States, the bulk of the shipments going directly to New York. There is an increasing tendency, however, to ship by way of Miami.

Farm Relief

It is evident that a drive is to be made to increase tariffs on agricultural products in the near future. Most economists seem to be opposed to such remedies. On the other hand the proponents of the measure claim that the farmers biggest handicap is foreign competition and what is needed is a tariff high enough simply to insure a substantial monoply of our own market. Agricultural imports of classes which can be raised advantageously in the United States or for which working substitutes can be produced, amount to $2,500,000,000. This includes 843 million dollars worth of edible vegetable products. An emergency tariff would involve no supervision, no organization and no government funds, but simply an act of Congress. In any event, they say, why not give it a trial?

Cauliflower an Uncertain Crop

From data collected and from observations made by Mr. Thos. H. White of the Maryland Experiment Station, it appears that a variation of only a few degrees in the mean temperature during the period when the cauliflower is developing a head, determines whether or not a profitable crop is to result. In tests made during the past few years there seems to be a close correlation between the mean temperatures during August and later and the development of the crop. Mr. White is of the opinion that a relatively high temperature is needed in the early stages of growth to insure a large enough plant to produce a good sized head should the temperatures in the later period be low enough for favorable development.

Certified Stocks of Maryland Potatoes

Dr. R. A. Jehle, of the Extension Service has just completed a list of Maryland growers who have certified stocks of seed potatoes as a result of recent inspections. A copy of this list accompanies this news letter.

CERTIFIED POTATO SEED 1928

NAME	POSTOFFICE	VARIETY	BUSHELS
H. P. Miller	Grantsville, Md.	Russet Rural	500
		Mills Prize	500
		World Wonder	600
		Other Rural Strains	105
		Green Mountain	150
Olen Yoder	Grantsville, Md.	Carmen	300
		Russet Rural	250
		Green Mountain	150
Luther Nichols	Annapolis, Md.	Jersey Redskin	800
Clarence Pickett	Mount Airy, Md.	Russet Rural	50
Wallace Selby	Marriottsville, Md.	Jersey Redskin	40
Vernon Stanfield	Marriottsville "	Jersey Redskin	80
Paul Gunby	Marion , Md.	Irish Cobbler	1500
C. A. Powell	Princess Anne, Md.	" "	150
W. J. Scott	Pocomoke City, Md.	" "	500
W. H. Long	Pocomoke City, "	" "	420
A. P. Long	Pocomoke City, "	" "	910
Frank Dennis	Eden "	" "	1800
C. F.Firestone	Bishop "	" "	150
S. T. Bowen	Newark "	" "	375
Norman Jones	Newark "	" "	450
King Johnson	Stockton "	" "	66
L. A. Bennett	Stockton "	" "	150
Worcester County Potato Growers Association	Snow Hill "	" "	1164
Ralph E. Shockley	Snow Hill "	" "	800
Grice Payne	Snow Hill "	" "	450
Harold Nock	Snow Hill "	" "	1800
Otho Aydelotte	Snow Hill "	" "	540
H. Redden	Scarboro "	" "	120
Frank Wilson	Pocomoke City "	" "	750
W. C. Wilson	Pocomoke City "	" "	261
E. M. Taylor	Pocomoke City "	" "	102
J. R. Shay	Pocomoke City "	" "	120
Clark Smith	Pocomoke City "	" "	249
A. F. Pilchard	Pocomoke City "	" "	140
Chas. W. Pilchard	Pocomoke City "	" "	575
H. T. Pilchard	Pocomoke City "	" "	180
I. B. Pilchard .	Pocomoke City "	" "	200
Peninsula Produce Exchange	Pocomoke City "	" "	753
Allison P. Payne	Pocomoke City "	" "	256
Clayton Jones	Pocomoke City "	" "	114
T. T. Colona	Pocomoke City "	" "	120
J. M. Bromley	Pocomoke City "	" "	200
F. J. Dukes & Bro.	Girdletree "	" "	250
A. F. Northam	Beaver Dam "	" "	636
Will Bunting	Beaver Dam "	" "	900
E. A. Smith	Pocomoke City "	" "	1125